REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of November 21, 2003 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due.

In paragraph 1 and 2 of the Office Action, the FIG. 1 was objected to under 37 C.F.R. § 1.84 (p)(5) because the reference character "30" did not appear in the description. In response, Applicants have amended the description to include the reference character "30." Applicants believe this amended corrects the deficiencies and that no drawing correction is required.

In paragraph 3 of the Office Action, the abstract was objected to for purporting merits or speculative applications of the invention. In response to this objection, Applicants have replaced the previously submitted abstract with a new abstract.

In paragraph 4 of the Office Action, objections were made for grammatical informalities. Specifically, the phrase "time extremely consuming" on lines 11-12 of page 3 has been replaced with the phrase "extremely time consuming," as suggested. The phrase "references to nodes that displayable" on line 10 of page 5 has been replaced with the phrase "references to nodes that are displayable," as suggested.

In paragraph 5 of the Office Action, claims 1-11 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Number 5,483,631 to Nagai *et al* (Nagai).

In response to the Office Action, Applicants have amended claims 1 and 7 to clarify that data metrics are received from components and converted into updated values that are ultimately displayed within nodes of the display map. Software agents, which are platform-independent software objects, are used as intermediaries between the components and the display map. Additionally, claims 4 and 10 have been amended to clarify that receiving agents act as intermediaries between components and nodes, receiving data metrics from the components and computing updated node values to be displayed within the appropriate node of the display map. Claim 6 has been amended to include a plurality of components distributed across a heterogeneous network and to clarify that agents act as intermediaries between components and

nodes. Support for this amendment can be found in FIGS. 1, 3, 4, and 5 and within the corresponding detailed description.

Claims 2 and 8 have been amended to incorporate the limitations previously contained in dependant claims 3 and 9 Claims 3, 5, 9, and 11 have been canceled.

Claims 12 and 17 have been added to specify that multiple nodes can be included within the display map and that each node can receive values from more than one software agent, as shown in FIG. 3 and the corresponding detailed description. Claims 13, 15, and 18 have been added to specify that a multitude of different receiving agents can receive data metrics from one of said components, as shown in FIG. 5 and the corresponding detailed description. Claims 14, 16, and 19 have been added to specify that each node can display a multitude of updated values or attributes for each monitored component, as shown in FIG. 2 and the corresponding detailed description. No new matter has been added as a result of these amendments.

Prior to addressing the rejections on the art, a brief review of the Applicants' invention is in order. The Applicants claimed and disclosed subject matter teaches a system, a method, and an apparatus for dynamically exposing the nodes of a graphical display or a display map. Each of the nodes can present data metrics for a multitude components, where the components can be distributed across a network. The exact presentation of data within a node can be customized for the information processing needs of the user of the display map. That is, each node can include user-selectable display options. Accordingly, a heterogeneous system, such as a grid computing system, and/or applications operating therein can be monitored and visualized via a single customizable display map, thereby alleviating the need for monitoring behavior of different components using different monitoring systems.

Monitored components can include both hardware and software components that utilize vastly different computing platforms, communication protocols, performance metrics, and the like. A multitude of different attributes can be monitored for each component. In one example, a monitored component can be a network bridge and monitored attributes can include available bandwidth, communication packets, and the like. In another example, a monitored component can be a hard drive, and monitored attributes can include used storage space, available storage space, average seek time, and the like. In yet another example, a component can be an

application, and monitored attributes can include the number of active users, current application performance, memory consumed by the application, and the like.

A multitude of different monitoring bots, or autonomous software agents, can be used as intermediaries between the nodes of the display map and the monitored components. Information can be conveyed to the nodes by the bots in a platform and component independent fashion. Each node can receive information from a multitude of different bots. A multitude of different bots can retrieve information from each monitored component. Each bot can gather a multitude of different attributes for each monitored component. Accordingly, using bots as communication intermediaries results in a very flexible architecture that decouples components from the display map. This architecture is software based, modular, scalable, and can be utilized in a non-exclusive fashion. For example, the Applicants' architecture can monitor components and provide data metrics to a display map while the components are concurrently being monitored by a propriety component monitoring application and/or display.

Turning specifically to the rejections on the art, in paragraph 5 of the Office Action, claims 1-11 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Nagai. Nagai discloses a network management system that includes a centralized network manager, which is a hardware device. All network information is managed by the network manager, where the centralized manager receives status data from a multitude of components. A component-status weight is assigned to each component-based data received from the component. A user-specific weight can be established within the centralized manager as well and associated with a component. The centralized manager can combine the user-specific weight and the component-status weight to achieve a display-value.

A number of different display terminals can be linked to the centralized manager. Each display can be associated with a particular set of user-specific weights. Each display can also include a plurality of icons corresponding to particular components. The appearance of each icon can change based upon the display-value calculated for the component corresponding to the icon.

Referring to claims 1 and 7, the network manager 101 of FIG. 1 of Nagai is referenced as being equivalent to the software agents claimed by the Applicants. Applicants respectfully

submit that the two are not equivalent. More specifically, the network manager 101 is a centralized hardware component including a CPU 111, a data store 105, a memory 106, a communication controller 104, a display controller 122, and the like. The network manager 101 must be physically imposed between a communication network 102 and the display unit 103 so that data must travel from the communication network 102 through the network manager 101 before reaching the display unit 103.

In contrast, the first agent is a software agent configured to perform a dedicated data gathering function. As used herein and as defined by the Cyber Business Center accessible via **http://www.nottingham.ac.uk/cyber/G051.html**, a software agent is:

> A "smart" computer program (or infomachine) that can "serve" its human "master" in cyberspace. Software agents (sometimes also known as bots protect their users from the complexity of computer and network operations, and may engage in database searches and transactions based upon a knowledge of an evolving user profile.

That is, a software agent is a piece of software capable of performing a dedicated function. The software agent can convey information between components and the map display as shown in FIG. 5 of the Applicants' submission.

Referring to claims 4, 10, and 6 the network manager 101 (hardware) of Nagai is not equivalent to the software agent of the Applicants' submission. Moreover, in Nagai, there is only a single network manager 101 that functions as a centralized manager between the communication network 102 and the display unit 103. The Applicants claim multiple software agents, each of which can function as an intermediary between the components and the nodes of the display map.

Claims 12-19 specify numerous aspects of the Applicants' architecture that differ from Nagai. For example, in claims 12 and 17 the fact that each node can receive values from more than one software agent is specified. Claims 12, 15, and 18 specify that different software agents can receive data from a single component. Claims 14, 16, and 19 specify that each node can display a multitude of updated values or attributes for each monitored component. No structure exists in Nagai which is equivalent or analogous to the features described in claims 12-19 as Nagai describes a centralized hardware component rather than a multitude of distributed software

agents. Moreover, Nagai only permits a single value to be displayed for each monitored component instead of displaying multiple user-configurable attributes for each monitored component.

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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